

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of Applicants:

Beaman et al.

Serial No.: 09/251,988

Filed: February 17, 1999

Date: January 29, 2009

Group Art Unit: 2829

Examiner: J. M. Hollington

Docket No.: YOR91999088US1

For: **STRUCTURAL DESIGN AND PROCESSES TO CONTROL PROBE  
POSITION ACCURACY IN A WAFER TEST PROBE ASSEMBLY**

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**APPEAL BRIEF  
IN REONSE TO FINAL REJECTION  
Dated 03/28/2008**

Sir:

Pursuant to 35 U.S.C. 134 and 37 C.F.R. 41.37, entry of this Appeal Brief in support of the Notice of Appeal filed April 19, 2008 in the above-identified matter is respectfully requested. This appeal is from the final rejection in the Office Action dated 03/28/2008, referred to herein as the Final Action.

In compliance with the requirements of CFR 37 §41.37(c)(1)(i) to 37 CFR 37 §41.37(c)(1)(x) are the following Parts I to X, respectively.

**Part I**  
**CFR 37 §41.37(c)(1)(i)**  
**Statement of Real Party in Interest**

The real party in interest in the above-identified patent application is the International Business Machines Corporation, Armonk, New York.

**Part II**  
**CFR 37 §41.37(c)(1)(ii)**  
**Related Appeals and Interferences**

There is a pending appeal in U.S. Appl. Ser. No. 10/145661 filed on 14-May-2002 which is a continuation-in-part of the present application on appeal.

**Part III**  
**Status of Claims**  
**CFR 37 §41.37(c)(1)(iii)**

**Claim Status**

1. No claims are allowed.
2. Claims 7, 10, 41-43, 49, 51, 58-60 and 64-68 have been rejected as being anticipated by Okubo et al. (US 5,134,356).
3. Cancelled claims: 1-6, 8, 9, 11-40, 44-48, 50, 52-57 and 61-63

**Part IV**  
**CFR 37 §41.37(c)(1)(iv)**  
**Status of Amendments**

There are no unentered amendments.

Applicants' Response After Final Action dated 02/27/2008 was entered by Advisory Action dated 03/28/2008.

**Part V**  
**CFR 37 §41.37(c)(1)(v)**  
**Summary of Claimed Subject Matter**

There is only one independent claim, claim 41.

Claim 41 is directed to a method comprising providing a substrate having a surface. A plurality of elongated electrical conductors are formed extending away from the surface. Each of the elongated electrical conductors has a first end affixed to the surface and a second end projecting away from the surface. There are a plurality of the second ends. A means is provided for maintaining the plurality of second ends in substantially fixed positions with respect to each other.

Support for claim 41 is found throughout the specification including in originally filed claim 41 and in Fig. 28 wherein the means provided for maintaining the plurality of second ends in substantially fixed positions with respect to each other is element 192 in Fig. 28.

**Part VI**  
**CFR 37 §41.37(c)(1)(vi)**  
**Grounds of Rejection to be reviewed on appeal**

1. The rejection of Claims 7, 10, 41-43, 49, 51, 58-60 and 64-68 as being anticipated by Okubo et al. (US 5,134,356).
2. The rejection of Applicant's request for a declaration of interference between the claims of the present application and U.S. Patent 6, 033, 935.

**Part VII**  
**CFR 37 §41.37(c)(1)(vii)**  
**Argument**

**ARGUMENT**

In the Final Office Action claims 7, 10, 41-43, 49, 51, 58-60 and 64-68 have been rejected as being anticipated by Okubo et al. (US 5,134,356). Applicants respectfully disagree and request reversal of this rejection. The Examiners reasons for rejection are based on an error of fact. Arguments as to each claims are

presented below in the same order that the Examiner's reasons for rejection have been presented in the Final Action

**CLAIM 41  
IS NOT ANTICIPATED BY OKUBO**

Claim 41 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

Independent claim 41 is not anticipate by Okubo.

Each rejected claim depends directly or indirectly from claim 41 which recites, "providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other." There is no teaching of this in Okubo et al., and the Examiner does not identify any such teaching. Okubo et al., explicitly teaches away from this recitation. Applicants' claim 67 explicitly recites "said means for maintaining comprises openings which are larger in size than said elongated electrical conductors. Okubo et al has no such teaching and the Examiner does not identify any such teaching in Okubo et al. As described below the specification and in

particular Fig. 28 shows element 192 which is a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

At page 4 of the Referenced Final rejection the Examiner states "Applicant's arguments filed June 4, 2007 have been fully considered but they are not persuasive." The Examiner quotes applicants June 4, 2007 arguments stating:

a) The applicants argue: "*The Examiner does not identify where in the teaching of Okubo elements 30 thereof is referred to as "flexible." Thus the Examiner has not made out a prima facie case of anticipation. Also Fig. 1 of Okubo does not show elements 30 extending away from a surface of element 10. Applicants' claim 41 recites "said elongated electrical conductors having a first end affixed to said surface" and recites "elongated electrical conductors extending away from said surface."*" Okubo Fig. 1 does not teach this as shown in this figure commenting on Okubo Fig 1. " The Examiner states in response:

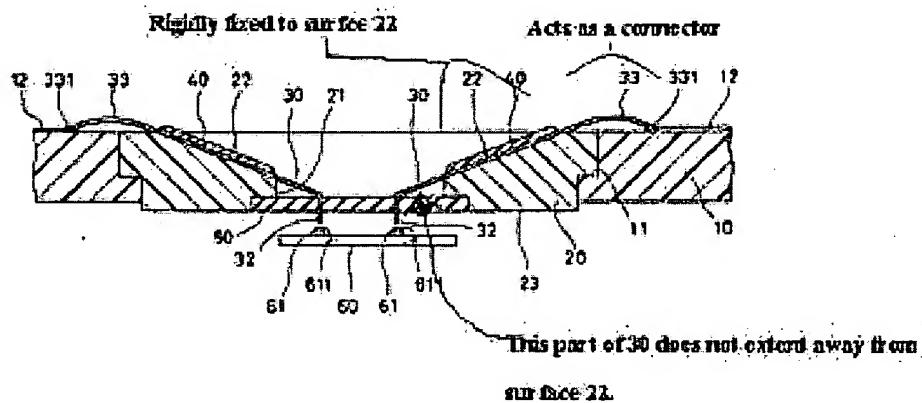
With regards to elements 30, claim 41 states: "...a substrate having a surface... a plurality of elongated electrical conductors extending away from said surface..." Element 30 is connected to the top surface of board 10, which represents the substrate, by way of end 33. As shown in Fig. 1, element 30 extends downward toward IC chip 60. Base on the figure one of ordinary skill in the art may conclude that the element 30 is extending away from the top surface of board 10. Therefore, the examiner believes the prior art still reads on the claim.

Applicant respectfully disagrees with the Examiner's view that the Examiner's statement that "the prior art still reads on the claim" means that the claim is anticipated by The Examiner quotes applicants June 4, 2007 arguments stating:

the cited reference. For a claim to be anticipated by the prior art the claim must read on the prior art. Moreover, it is applicants' position that a person of ordinary skill in the art would not be of the view that the Examiner's interpretation of "extending away from said surface" is a reasonable interpretation in view of applicants' teaching. In addition, Okubo et al. teaches away from applicants' teaching and claim recitation. Okubo teaches at Col. 4 lines 7-20, "**The probe 30 is set on the inward slope of the upper side 22 with a middle portion adhered by an epoxy adhesive 40 ... and the front L portion is extended downward into the central opening 21 to open the front tip 32 downwardly out of the under side of the supporter 20.**" (Emphasis added.) As shown in the figure below the portion of probe 30 that is marked 33 which is between

solder 331 and the part of 30 that is fixed to surface 22 acts as an electrical connector from 331 to the part of 30 that is fixed to surface 22. Surface 22 is an extension of the surface that solder 331 is on. The part of 30 that is connected to 32 does not extend away from the surface 22, but extends off the edge of surface 22 in the same plane as the surface 22 and then bends downward. Thus Okubo et al. can not anticipate "extending away from said surface" as recited in the claims. The "elongated electrical conductors extending away from said surface" recited in applicants claims correspond to the probe tip 32 of Okubo which does not extend away from surface 22 of Okubo.

This discussion is made clear by this marked up Okubo Fig. 1.



The Examiner states:

- b) The applicants further argue: "Okubo shows expanded views in Fig. 2 (a) and Fig. 2(b) of ends(32) in element 50. Element 50 does not comprise openings larger in size than the elongated electrical conductors. In fact Fig. 2(a) and 2(b) of Okubo show element 50 having openings that are the same size as the conductors 30 which result is ends 32 being in a fixed position and not in "substantially fixed positions" as recited in applicants claim 41."

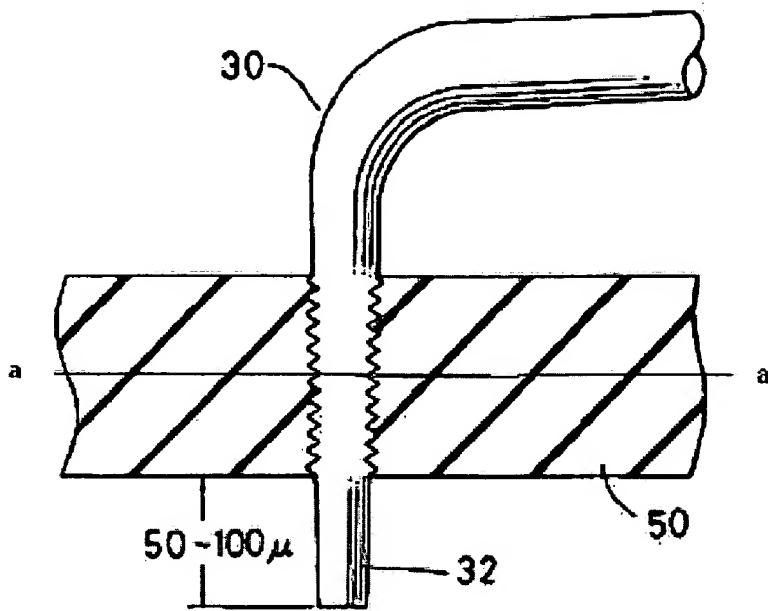
The Examiner states in response:

In response to the above, the examiner disagrees. The opening of element 50 of Okubo could not be the same size to element 30. If both are the same size, then element 30 should not be inserted through element 50 to test the DUT on top of IC chip 60. Therefore, the opening in element 50 is slightly larger for element 30 to fit through for its intended purpose. Therefore, the examiner believes the prior art still reads on the claim.

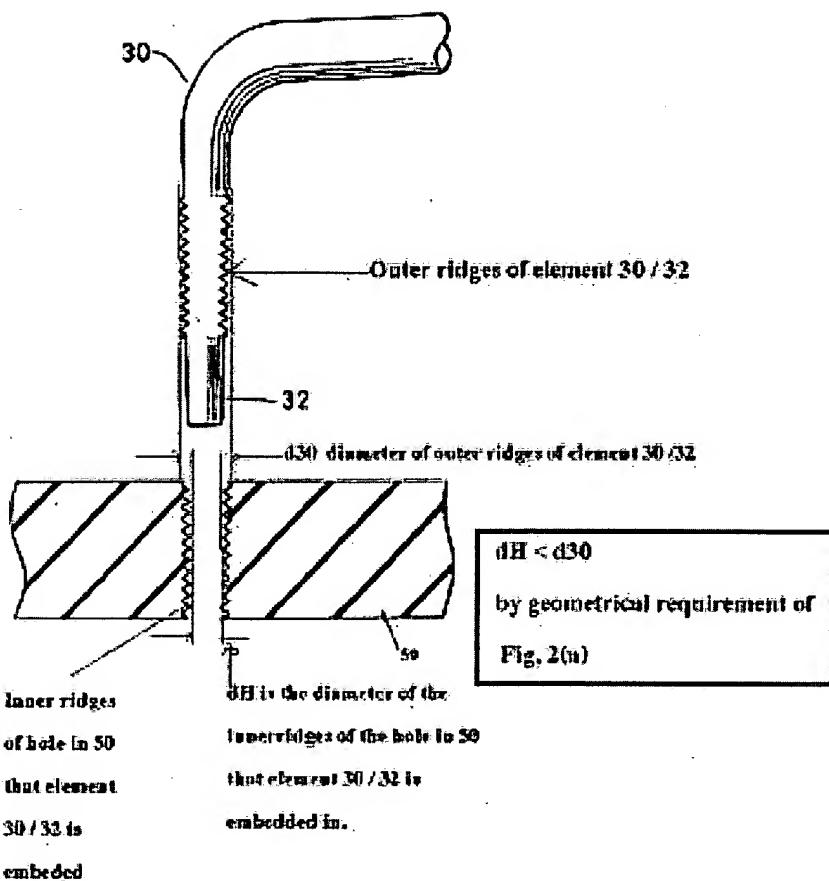
The Examiner essentially repeats this argument in the Advisory Action dated 03/28/2008. Applicants respectfully submit that this statement is not supported by the teaching of Okubo. Applicants will illustrate this by use of Okubo Fig. 2(a). The same argument applies to Okubo Fig. 2(b). The Examiner states above referring to Okubo element 30 and opening 50 "If both are the same size, then element 30 should not be inserted through element 50." The Examiner does not identify where Okubo teaches that element 30 is inserted through element 50. Applicants submit Okubo teaches to the contrary at Col 4. lines 20-27 and lines 31- 35 "the front end 32 of the probe 30 is set by the resin 50 so that a length ... is extended downward, wherein the uneven portion [ridges on 32 embedded in 50 as described below] acts to produce more attachment or integration with the resin 50" and "[r]eferring to the resin 50, if an epoxy resin is used, the opening 20 is priorly filled with a transparent film and thereon the epoxy resin is applied so as to fix the probe tip 32". Thus Okubo et al. teaches probe tip 32 is fixed in resin 50 and the ridges (uneven portions) on 32 cause it to be attached to resin 50 and the resin 50 is applied to probe tip 32. If probe tip 32 is attached to resin 50, then it cannot be true as stated by the Examiner that "the opening in element 50 is slightly larger for element 30 to fit through for its intended purpose" and if the "epoxy resin is applied so as to fix the probe tip 32" as taught by Okubo et al. it cannot be true as asserted by the Examiner that element 30 is inserted through element 50. Thus applicants' claims cannot be anticipated by Okubo et al. These comments are made clearer by the following figures.

In Okubo Fig 2(a) and 2 (b) elements 30/32 is embedded in material 50. Thus material 50 is butted up against the outside surface of element 30/32. Therefore, the diameter of 30/32 along a line a—a in the Figure below is the same as the diameter of the hole in element 50 in which element 30/32 is embedded.

*Fig. 2(a)*



In the Figure below Okubo Fig. 2(a) is separated into parts. Element 30/ 32 is shown above the hole in 50 in which element 30/32 is embedded. It is clear from the figure below that the diameter,  $d_{30}$ , of the outer ridges (Okubo Col. 4, line 24 cited above refers to this as the "uneven portion") of element 30/32 is larger than the diameter,  $d_H$ , of the inner ridges of the hole in 50 in which the element 30/32 is embedded, i.e.  $d_{30} > d_H$ . Thus element 30/32 cannot be inserted through element 50 as asserted by the Examiner. Thus Okubo cannot anticipate applicants' claims. An attempt to insert element 30/32 into the hole in 50 will result in the ridges on element 30/32 being obstructed by the ridges on the hole in 50, thereby preventing element 30/32 from being inserted into the hole in 50.

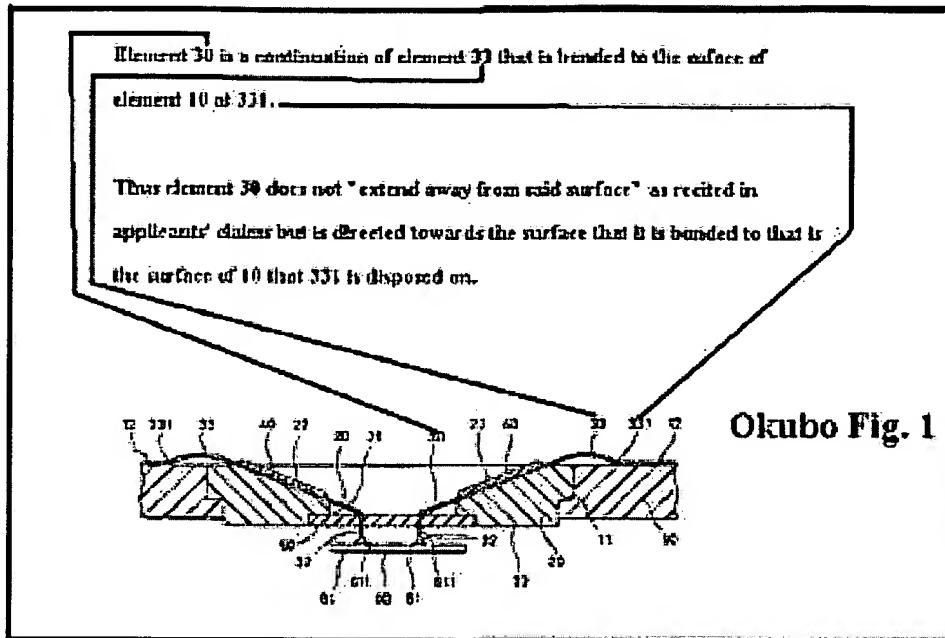


The Examiner states at page 2 of the Final Action:

Regarding claim 41, Okubo et al disclose a method [see also Fig. 1] comprising: providing a substrate (board 10) having a surface (top surface of 10); forming a plurality of flexible elongated electrical conductors (probes 30) extending away from said surface; each of said flexible elongated electrical conductors (30) having a first end (rear end 33) affixed to said surface [via solder 331] and a second end (probe tip 32) projecting away from said surface (top of 10); there being a plurality of said second ends (32); providing a means for maintaining said plurality of said second ends (32) in substantially fixed positions [via resin 50] with respect to each other.

The Examiner does not identify where in the teaching of Okubo elements 30 thereof is referred to as "flexible." Thus the Examiner has not made out a *prima facie* case of anticipation. Also Fig. 1 of Okubo does not show elements 30 extending away from a surface of element 10. Applicants' claim 41 recites "said elongated electrical conductors having a first end affixed to said surface" and recites "elongated electrical conductors

extending away from said surface." Okubo Fig. 1 does not teach this as shown in this figure commenting on Okubo Fig 1.

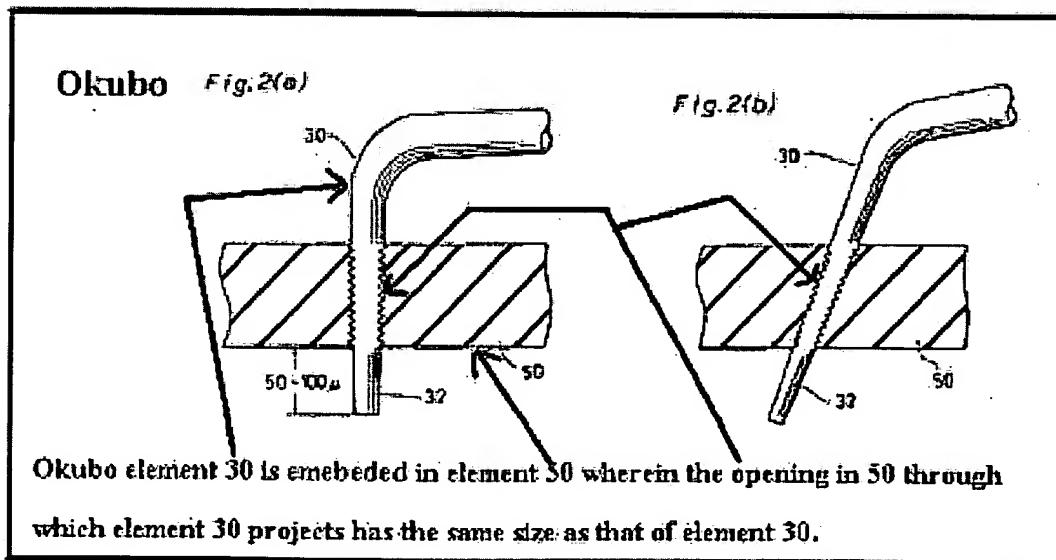


For the reasons given in the Figure above applicants disagree with the Examiner's Statement that:

each of said flexible elongated electrical conductors (30) having a first end (rear end 33) affixed to said surface [via solder 331] and a second end (probe tip 32) projecting away from said surface (top of 10); there being a plurality of said second ends (32); providing a means for maintaining said plurality of said second ends (32) in substantially fixed positions [via resin 50] with respect to each other.

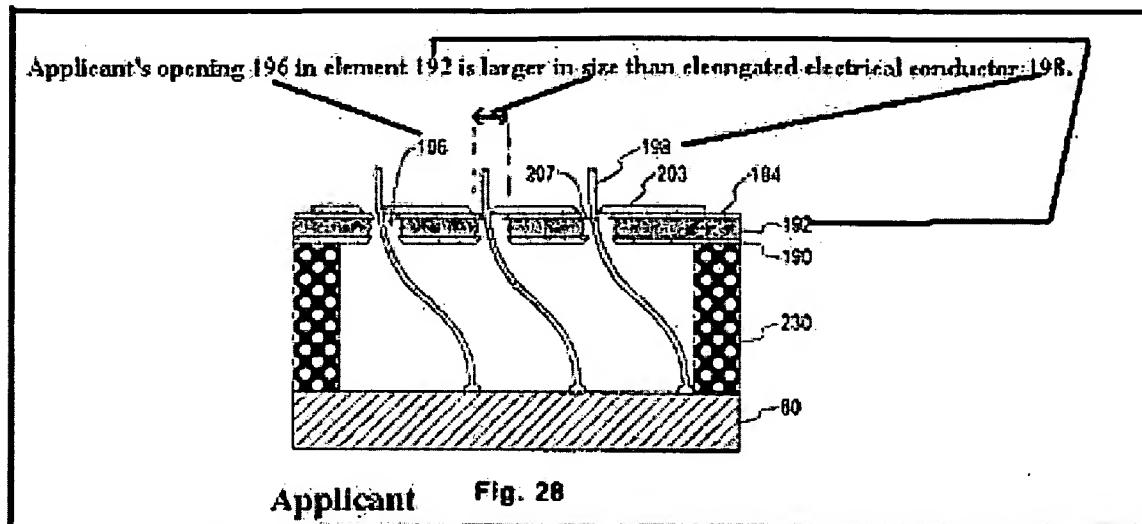
Applicants' claim 41 recites "elongated electrical conductors having ... a second end projecting away from said surface." Okubo Fig. 1 does not show element 32 projecting away from the surface of element 20 that element 331 is disposed on.

As described above Okubo shows expanded views in Fig. 2(a) and Fig. 2(b) of ends (32) in element 50. Element 50 does not comprise openings larger in size than the elongated electrical conductors. In fact Fig. 2(a) and 2(b) of Okubo show element 50 having openings that are the same size as the conductors 30 which result is ends 32 being in a fixed position and not in "substantially fixed positions" as recited in applicants claim 41.



For example applicants' Fig. 28 (reproduced below with markups) shows element 192 having openings 196 that are larger in size than elongated conductor 198 which

substantially holds conductor in a fixed position but not in a fixed position. Element 192 corresponds to the claim 41 "means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other". In applicants Fig. 28 elongated conductors can move within the opening 196 being held in substantially fixed position defined by the opening 196 in element 192.



**CLAIM 49  
IS NOT ANTICIPATED BY OKUBO**

Claim 49 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 49 (Rejected) A method according to claim 41 wherein said means for maintaining comprises a sheet of material comprising openings comprising a large region and a small region.

Claim 49 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated. By Okubo.

The Examiner further states at page 2 of the Final Action:

Regarding claim 49, Okubo et al disclose means for maintaining comprising a sheet of material (support 20) having a plurality of opening (openings 11 and 21).

Element 20 of Okubo has one opening 11. The Examiner has incorrectly stated that 11 is an opening in element 20. Element 11 of Okubo Fig. 1 is an opening in element 10. Thus element 20 of Okubo Fig. 1 has only one opening and not a "openings" as recited in applicants' claim 49. Moreover, when element 20 is inserted into opening 11 of element 10 of Okubo Fig. 1 element 11 is no longer an opening.

**CLAIM 7  
IS NOT ANTICIPATED BY OKUBO**

Claim 7 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 49 (Rejected) A method according to claim 41 wherein said means for maintaining comprises a sheet of material comprising openings comprising a large region and a small region.

CLAIM 7 (Rejected) A method according to claim 49 wherein said sheet is spaced apart from said surface by a flexible support.

Claim 7 depends from claims 41 and 49 and is not anticipate for the same reasons for why claims 41 and 49 are not anticipated by Okubo.

The Examiner further states at page 2 of the Final Action:

Regarding claim 7, Okubo et al disclose said sheet of material (20) is spaced apart from said surface by a flexible support (opening 11).

Applicants' claim 7 recites "said sheet of material is spaced apart from said surface by a flexible support." The surface is the surface to which the first ends of the elongated electrical conductors are affixed to. Okubo Fig. 1 does not teach this. Fig. 1 from Okubo is shown above. Element 20 is not spaced apart from the surface of element 10 that element 331 is disposed on which is the location that element 33 is attached to. In fact element 20 of Fig. 1 is in the same plane as the surface that element 331 is disposed on and thus element 20 cannot be spaced apart from the surface that element 331 is disposed on as the Examiner contends. Moreover, the Examiner does not identify what in Okubo is a "flexible support." The Examiner does not explain how "opening (11)" of Okubo is "a flexible support" as recited in applicants' claim 7 as the Examiner states in the passage quoted above. Thus the Examiner has not made out a *prima facie* case for anticipation of claim 7.

**CLAIM 10  
IS NOT ANTICIPATED BY OKUBO**

Claim 10 recites:

CLAIM 41 (Rejected) A method comprising:  
  
providing a substrate having a surface;  
  
forming a plurality of elongated electrical conductors extending away from said surface;  
  
each of said elongated electrical conductors having a first end affixed to said surface and  
a second end projecting away from said surface;  
  
there being a plurality of said second ends;  
  
providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 49 (Rejected) A method according to claim 41 wherein said means for maintaining comprises a sheet of material comprising openings comprising a large region and a small region.

CLAIM 7 (Rejected) A method according to claim 49 wherein said sheet is spaced apart from said surface by a flexible support

CLAIM 10 (Rejected) A method according to claim 7 wherein said sheet and said flexible support forms a space containing said plurality of elongated electrical conductors.

Claim 10 depends from claims 7, 49 and 41 and is not anticipate for the same reasons for why claims 7, 49 and 41 are not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 10, Okubo et al disclose said sheet (20) and said flexible support (11) forms a space containing said plurality of elongated electrical conductors (30).

The Examiner does not identify in the quoted passage what the "space" is in Okubo.

Applicants' claim 10 recites "said sheet and said flexible support forms said space." The Examiner has not identified what corresponds to this in Okubo. Thus the Examiner has not made out a case of *prima facie* anticipation. Okubo teaches at Col. 3, lines 65-66, that "opening 11 having a stepped ring wall is formed at a central portion of the board 10." Thus Okubo 11 is not a flexible support as stated by the Examiner.

**CLAIM 42**  
**IS NOT ANTICIPATED BY OKUBO**

Claim 42 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 42 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum and polyimides.

Claim 42 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 42, Okubo et al disclose said sheet (20) is formed and material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum, and polyimides.

The Examiner does not identify where Okubo teaches Invar, Cu/Invar/Cu, molybdenum, and polyimides. Thus the Examiner has not made out a case of *prima facie* anticipation of claim 42.

**CLAIM 43  
IS NOT ANTICIPATED BY OKUBO**

Claim 43 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 43 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.

Claim 43 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 43, Okubo et al disclose said sheet (20) is formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.

The Examiner does not identify where Okubo teaches that element 20 is formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric. Thus the Examiner has not made out a case of *prima facie* anticipation of claim 43.

**CLAIM 51  
IS NOT ANTICIPATED BY OKUBO**

Claim 41 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 51 (Rejected) A method according to claim 41 wherein said means for maintaining comprises openings comprising a large region and a small region, said compliant elongated electrical conductors are first inserted through said large region and then moved to said small region.

Claim 51 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

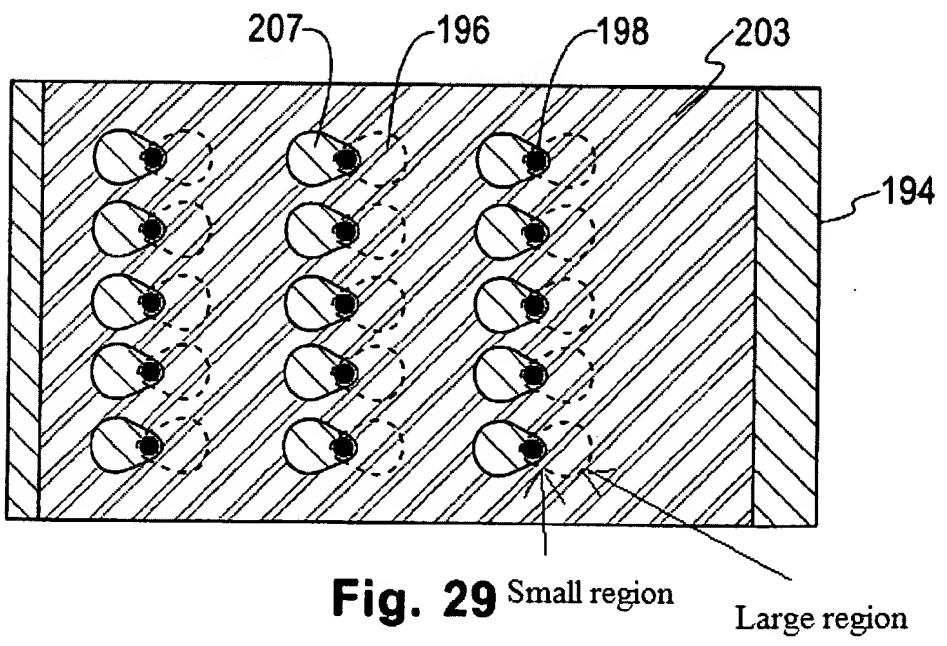
The Examiner further states at page 3 of the Final Action:

Regarding claim 51, Okubo et al disclose said means for maintaining (20) comprises openings comprising a large region (21) and a small region (within resin 50), said compliant elongated electrical conductors (30) are

first inserted through said large region (21) and then moved to said small region (within resin 50).

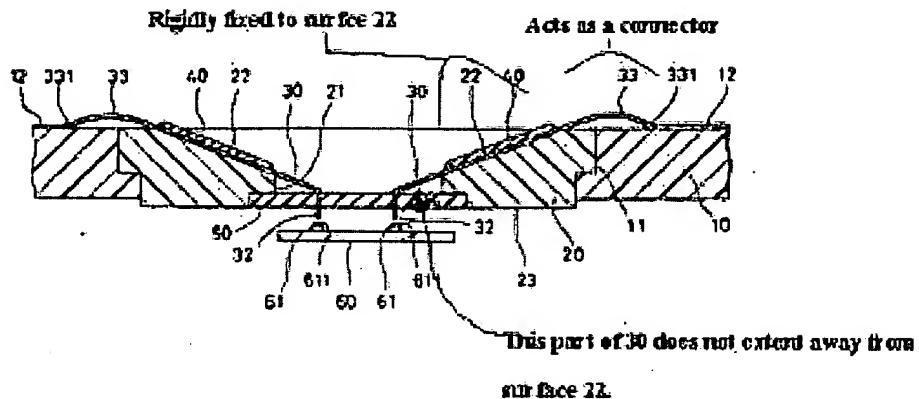
The Examiner does not identify here what in Okubo corresponds to the term "openings" recited in applicants' claim 51. The Examiner does not identify here what in Okubo corresponds to the term "small region" recited in applicants' claim 51. The Examiner does not identify where there is a teaching in Okubo, as alleged by the Examiner, for "first inserted through said large region (21) and then moved to said small region (within resin 50)." Thus the Examiner has not made out a case of *prima facie* anticipation of applicants' claim 51.

The Examiner's comments are inconsistent with the claim language. Claim 51 recites "openings comprising a large region and a small region." This is shown in Applicants' marked up Fig. 29 reproduced below. Opening 196 in element 192 (See Fig. 28) has a large region and a small region as marked in the figure below.



The Examiner's statement "comprises openings comprising a large region (21) and a small region (within resin 50)." Element 21 of Okubu surrounds openings in resin 50

that conductors 30 go through. This is clear from the following marked up Okubu Fig. 1. Thus



Thus Okubu cannot anticipate Applicants' claim 51.

As noted above the Examiner states in the quoted passage "said compliant elongated electrical conductors (30) are first inserted through said large region (21) and then moved to said small region (within resin 50)." If as shown above the openings in resin 50 are not part of the opening 21, it is not possible to move electrical conductors 30 from region 21 to region the alleged small region in resin 50. The Examiner does not explain how this is possible. Thus Okubu cannot anticipate Applicants' claim 51.

**CLAIM 58  
IS NOT ANTICIPATED BY OKUBO**

Claim 58 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 58 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said seconds ends project.

Claim 58 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 58, Okubo et al disclose said means for maintaining (20) is a sheet of material comprising a plurality of openings (21) through which said seconds ends (32) project.

Claim 58 recites "plurality of openings." The Examiner identifies the single element 21 of element 20 of Okubo as the element of Okubo corresponding to a "plurality of openings." A single opening does not anticipate a "plurality of openings." Thus the Examiner has not made out a case of *prima facie* anticipation of applicants' claim 58.

**CLAIM 59  
IS NOT ANTICIPATED BY OKUBO**

Claim 59 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 59 (Rejected) A method according to claim 41 wherein said means for maintaining comprises at least one sheet of material comprising a plurality of openings through which said second ends project.

Claim 59 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 59, Okubo et al disclose said means for maintaining (20) comprises at least one sheet of material comprising a plurality of openings (21) through which said second ends (32) project.

Claim 59 recites "plurality of openings." The Examiner identifies the single element 21 of element 20 of Okubo as the element of Okubo corresponding to a "plurality of openings." A single opening does not anticipate a "plurality of openings." Thus the Examiner has not made out a case of *prima facie* anticipation of applicants' claim 59.

**CLAIM 60**  
**IS NOT ANTICIPATED BY OKUBO**

Claim 60 recites:

CLAIM 41 (Rejected) A method comprising:  
  
providing a substrate having a surface;  
  
forming a plurality of elongated electrical conductors extending away from said surface;  
  
each of said elongated electrical conductors having a first end affixed to said surface and  
a second end projecting away from said surface;  
  
there being a plurality of said second ends;  
  
providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 59 (Rejected) A method according to claim 41 wherein said means for maintaining comprises at least one sheet of material comprising a plurality of openings through which said second ends project.

CLAIM 60 (Rejected) A structure according to claim 59 wherein of said at least one sheet is a sheet of electrically conductive material which has a top surface and a bottom surface and said openings have a sidewall, a dielectric material coats said top surface and said bottom surface and said sidewall.

Claim 60 depends from claims 59 and 41 and is not anticipate for the same reasons for why claims 59 and 41 are not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 60, Okubo et al disclose of said at least one sheet (20) is a sheet of electrically conductive material which has a top surface and a bottom surface and said openings (21) have a sidewall, a dielectric material coats said top surface and said bottom surface and said sidewall.

The Examiner has not identified where Okubo teaches that Okubo element 20 is a sheet of electrically conductive material, where Okubo teaches that a top surface and a bottom surface of element 20 of Okubo and the side wall of Okubo element 21 are coated with a dielectric material. Thus the Examiner has not made out a case of *prima facie* anticipation of applicants' claim 60.

**CLAIM 64  
IS NOT ANTICIPATED BY OKUBO**

Claim 64 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 51 (Rejected) A method according to claim 41 wherein said means for maintaining comprises openings comprising a large region and a small region, said compliant elongated electrical conductors are first inserted through said large region and then moved to said small region.

CLAIM 64 (Rejected) The structure according to claim 51 wherein each of said elongated electrical conductors projects through one of said openings in said sheet of material.

Claim 64 depends from claims 51 and 41 and is not anticipate for the same reasons for why claims 51 and 41 are not anticipated by Okubo.

The Examiner further states at page 3 of the Final Action:

Regarding claim 64, Okubo et al disclose each of said elongated electrical conductors (30) projects through one of said openings (21) in said sheet of material (20).

Claim 64 recites "each of said elongated conductors projects through one of said openings in said sheet of material." Okubo element 21 is a single opening. Thus Okubo does not teach openings. The Examiner does not identify what corresponds to the plurality of openings in Okubo and where Okubo teaches each elongated conductor projects through one of the plurality of openings. Thus the Examiner has not made out a *prima facie* case of anticipation of claim 64.

**CLAIM 65**  
**IS NOT ANTICIPATED BY OKUBO**

Claim 65 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 58 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said second ends project.

CLAIM 65 (Rejected) The structure according to claim 58 wherein each of said elongated electrical conductors projects through one of said plurality of openings in said sheet of material.

Claim 65 depends from claims 58 and 41 and is not anticipate for the same reasons for why claims 58 and 41 are not anticipated by Okubo.

The Examiner further states at page 4 of the Final Action:

Regarding claims 65-66, Okubo et al disclose each of said elongated electrical conductors (30) projects through one of said plurality of openings (21) in said sheet of material (20).

Claim 65 recites "each of said elongated electrical conductors projects through one of said plurality of openings." Okubo element 21 is a single opening. Thus Okubo does not teach openings. The Examiner does not identify what corresponds to the plurality of openings in Okubo and where Okubo teaches each elongated conductor projects through one of the plurality of openings. Thus the Examiner has not made out a prima facie case of anticipation of claim 65.

**CLAIM 66**  
**IS NOT ANTICIPATED BY OKUBO**

Claim 66 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 59 (Rejected) A method according to claim 41 wherein said means for maintaining comprises at least one sheet of material comprising a plurality of openings through which said second ends project.

CLAIM 66 (Rejected) The structure according to claim 59 wherein each of said elongated electrical conductors projects through one of said plurality of openings in said sheet of material.

Claim 66 depends from claims 59 and 41 and is not anticipate for the same reasons for why claims 59 and 41 are not anticipated by Okubo.

The Examiner further states at page 4 of the Final Action:

Regarding claims 65-66, Okubo et al disclose each of said elongated electrical conductors (30) projects through one of said plurality of openings (21) in said sheet of material (20).

Claim 66 recites “each of said elongated electrical conductors projects through one of said plurality of openings in said sheet of material.” Okubo element 21 is a single opening. Thus Okubo does not teach openings. The Examiner does not identify what corresponds to the plurality of openings in Okubo and where Okubo teaches each elongated conductor projects through one of the plurality of openings. Thus the Examiner has not made out a prima facie case of anticipation of claim 66.

**CLAIM 67  
IS NOT ANTICIPATED BY OKUBO**

Claim 67 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 67 (Rejected) The structure according to claim 41 wherein said means for maintaining comprises openings which are larger in size than said elongated electrical conductor and wherein each of said elongated electrical conductors projects through one of said openings in said sheet of material.

Claim 67 depends from claim 41 and is not anticipate for the same reasons for why claim 41 is not anticipated by Okubo.

The Examiner further states at page 4 of the Final Action:

Regarding claim 67, Okubo et al disclose said means for maintaining (20) comprises openings (21) which are larger in size than said compliant elongated electrical conductors (30) and wherein each of

said elongated electrical conductors (30) projects through on of said openings (21) in said sheet of material (20).

Claim 67 recites “said means for maintaining comprises openings which are larger in size than said elongated electrical conductor and wherein each of said elongated conductors projects through one of said opening.” The Examiner does not identify where Okubo teaches openings. Okubo element 21 is a single opening. Thus Okubo does not teach openings. The Examiner does not identify what corresponds to the plurality of openings in Okubo and where Okubo teaches each elongated conductor projects through one of the plurality of openings. Thus the Examiner has not made out a *prima facie* case of anticipation of claim 67. Okubo does not teach openings. Okubo element 21 is a single opening. Thus Okubo does not teach a plurality of openings. Thus Okubo cannot anticipate claim 67. As argued under the heading Claim 41 Okubo does not teach that the “openings … are larger in size than said elongated electrical conductors” as recited in claim 67.

**CLAIM 68**  
**IS NOT ANTICIPATED BY OKUBO**

Claim 68 recites:

CLAIM 41 (Rejected) A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 58 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said second ends project.

CLAIM 68 (Rejected) The structure according to claim 58 wherein each of said plurality of openings is larger in size than said elongated electrical conductor.

Claim 68 depends from claims 58 and 41 and is not anticipate for the same reasons for why claims 51 and 41 are not anticipated by Okubo.

The Examiner further states at page 4 of the Final Action:

Regarding claim 68, Okubo et al disclose each of said plurality of openings (21) is larger in size than said compliant elongated electrical conductors (30).

Claim 68 recites “each of said plurality of openings is larger in size than said elongated electrical conductor.” Okubo teaches only one opening 21. Okubo does not teach openings, i.e., more than one. For the reasons given above under heading “CLAIM 41 IS NOT ANTICIPATED BY OKUBO,” Okubo does not teach openings “larger in size than said elongated electrical conductors” as recited in claim 68. Thus Okubo cannot anticipate claim 68.

Okubo Fig. 1 shows a plurality of elements 30 in one opening 21. of element 23. Applicants’ claim 58 from which claim 68 depends recites “” a plurality of openings through which said second ends project,” Since Okubo teaches only one opening (21) it cannot anticipate a claim to a plurality of openings.

**CONCLUSION  
TO THE REJECTION UNSER 35 USC 102**

Applicant requests the Board to reverse the rejection of claims 7, 10, 41-43, 49, 51, 58-60 and 64-68 under 35 USC 102(e) as being anticipated by Okubo et al. (US 5,134,356)

**REQUEST FOR DECLARATION OF INTERFERENCE  
WITH U.S. PATENT 6,033,935**

Applicants submitted a Request for Declaration of Interference with U.S. Patent 6,033,935 in the following tow papers – each was denied:

1. in Applicants' paper submitted 10/31/2005. This was denied in the Notice of Allowability in Notice of Allowance dated 04/24/2006, which allowed claims 7, 10, 41-43, 49, 50 and 58-60 which presently are under appeal; and
2. in Applicants' paper submitted 08/21/06. This was denied in the Notice of Allowability in the Notice of Allowance dated 02/22/07, which allowed claims 7, 10, 41-43, 49, 50 and 58-60 which are presently under are under appeal.

In the Notice of Allowability dated 04/24/2006 and the Notice of Allowability dated 02/22/07 claims rejected herein were allowed, but the request for a Declaration of Interference with U.S. Patent 6,033,935 was denied stating at page 2 the Notice of Allowability dated 02/22/07:

In MPEP 2301.03, it states: "A claim of one inventor can be said to interfere with the claim of another inventor if they each have a patentable claim to the same invention. The Office practice and the case law define "same invention" to mean patentably indistinct inventions. Case v. CPC Int '1, Inc., 730 F.2d 745, 750, 221 USPQ 196, 200 (Fed. Cir. 1984); Aelony v. Ami, 547 F.2d 566, 570, 192 USPQ 486,489-90 (CCPA 1977); Nitz v. Ehrenreich, 537 F.2d 539, 543,190 USPQ 413, 416 (CCPA 1976); Ex parte Card, 1904 CD. 383, 384-85 (Comm'r Pats. 1904). If the claimed invention of either party is patentably distinct from the claimed invention of the other party, then there is no interference-in-fact. Nitz v. Ehrenreich, 537

F.2d 539, 543, 190 USPQ 413, 416 (CCPA 1976). 37 CFR 41.203(a) states the test in terms of the familiar concepts of obviousness and anticipation. Accord Eli Lilly & Co. v. Bd. of Regents of the Univ. of Wa., 334 F.3d 1264, 1269-70, 67 USPQ2d 1161, 1164-65 (Fed. Cir. 2003) (affirming the Office's interpretive rule). Identical language in claims does not guarantee that they are drawn to the same invention. Every claim must be construed in light of the application in which it appears. 37 CFR 41.200(b). Claims reciting means-plus-function limitations, in particular, might have different scopes depending on the corresponding structure described in the written description." Keep also in mind that 37 CFR 41.203 states: "(a) Interfering subject matter. An interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa." Base on the above statement, the examiner believes that there is no interference between the claims of the present invention and claims 1-3 of U.S. Patent 6,033,935 since they do not have a patentable claim to the same invention nor is it obvious to use the above patent taken alone or in combination with another reference. Further, the filing date of the above patent will not qualify for any 102 or 103 rejections.

In this passage the Examiner refers to a number of court and Board decisions, but none of them are applied to the facts of the present application under appeal.

In the passage quoted above the Examiner makes the conclusory statement:

Base on the above statement, the examiner believes that there is no interference between the claims of the present invention and claims 1-3 of U.S. Patent 6,033,935 since they do not have a patentable claim to the same invention nor is it obvious to use the above patent taken alone or in combination with another reference. Further, the filing date of the above patent will not qualify for any 102 or 103 rejections.

This does not rebut the prima facie showing made by Applicants the there is an interference-in-fact. After Applicants' prima facie showing that there is an interference in fact it is the burden of the Examiner to rebut that showing. The Examiner has made no attempt to do so. In view thereof applicants request that the Board declare the requested interference. Below Applicants reproduce the request made in paper submitted 08/21/06.

**APPLICANT REQUESTS AN INTERFERENCE BE  
DECLARED UNDER 37 CFR 41.202  
37 CFR § 41.202 (a)(l)**

Applicant requests that the present application be placed into interference with US patent 6,033,935 (US'935)

**37 CFR § 41.202 (a)(2)**

Applicant proposes that US'935 claims 1, 2 and 3 correspond to the count and that claim 58 of the present application correspond to the count.

**PROPOSED COUNT**

A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface

and a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other;

said means for maintaining is a sheet of material comprising a plurality of openings through which said second ends project.

The following Table 1 shows claims 58 which depends from claim 41 of the present application and claim 1 of US'935 each with numbers added in brackets ,[#], to identify the clauses of the claims. The next Table 2 shows the clauses grouped and in a modified order to show that there is an interference-in-fact between the present application and US'935. Applicants' claim 58 corresponds to the count since it is identical to the count.

**Table 1**

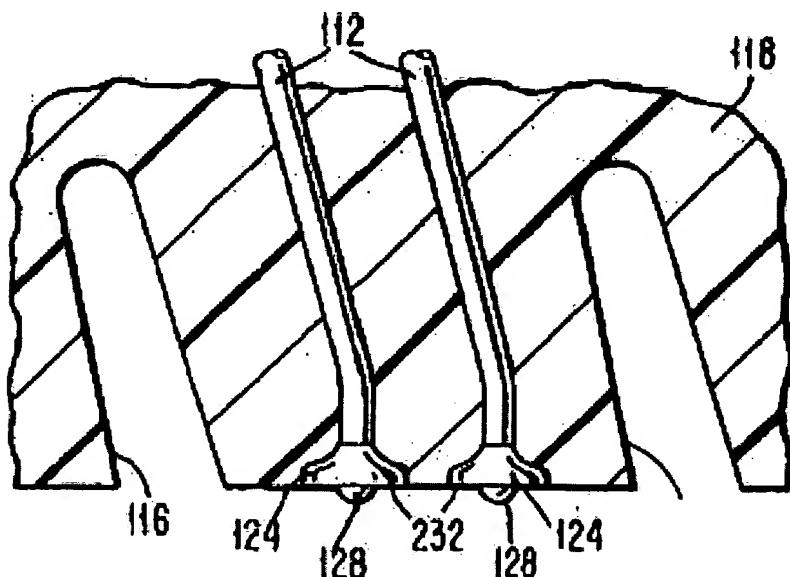
Claim 41 and 58 of the present application.	Claim 1 of US'935
1. [1] A method comprising:	2. [1] A method of effecting temporary connections to free ends of at least a portion of a plurality of elongate spring contact elements mounted to and extending from an electronic component such as a semiconductor device, the method comprising:
[2] a providing substrate having a surface;	[2] urging the electronic component against an interconnection substrate so that the free ends of at least a portion of the spring contact elements vertically contact selected ones of a corresponding plurality of terminals on the
[3] forming a plurality of elongated electrical conductors extending away from	[3] providing a rigid planar member between the electronic component and the interconnection substrate;
[4] each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface;	[4] providing a plurality of guide holes in the rigid planar member; and
[5] there being a plurality of said second ends;	[5] inserting the free ends of at least a portion of the spring contact elements extending through selected ones of the
[6] providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect	
58. [6] A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said second ends	

Claim 58 of the present application corresponds to the count since claim 58 of the present application is the count. Claims 1,2 and 3 of US '935 corresponds to the count since these claims are obvious in view of the count. Claim 1 and 3 of US'935 1 and 3 in addition to the recitations of claim 2 recite "moving the interconnection substrate horizontally to effect a pressure connection between the terminal and the end portion of the spring contact element." This additional recitation in claims 1 and 3 is obvious in view of the count since it is obvious in view of the prior art to US'935. US patent 5,371,654 is a 35 USC 102(b) reference against US '935. At page 9 of applicants' specification US App 07/963,346 filed 10/19.1992 US patent 5,371654 issued 12/6/1994 is incorporated by reference and applicants claim priority thereto.

US 5, 371, 654 teaches at Col. 11, line 42-51, referring to Fig. 22 thereof:

These pits can have, for example, a hemispherical shape, rectangular shape, pyramidal shape or any other shape. If such an array of pits are used and the wire is bonded in the region of the pit, a protuberance such as 128 of FIG. [23] is formed at the surface 232 of flattened ball. This protuberance provides a projecting region to the contact formed by flattened ball 124 which can wipe on the surface of the contact location to which the flattened ball is to be electrically connected. (Emphasis added)

FIG. 23



Wiping the surface of the contact location can be achieved by "moving the interconnection substrate horizontally to effect a pressure connection between the terminal and the end portion of the spring contact element." Pressure connections are what the purpose is of the spring contact element. See for example original claim 20 of the present application. See for example US 5, 371, 654 which teaches at Col. 4, line 42-54, referring to Fig. 4 thereof:

FIG. 4 shows a perspective view of the structure shown in FIG. 1 plus heat dissipation means 51 and 53. Numbers common between FIGS. 1, 2, 3 and 4 represent the same thing. Heat dissipation means 51 and 53 are in thermal contact with substrates 8. The heat dissipation means is preferably made of aluminum. Substrate 8 is held in grooves in heat dissipation means 51 and 53 to ensure good thermal contact, mechanical support and compresses the interconnection means 49 between adjacent assemblies to provide

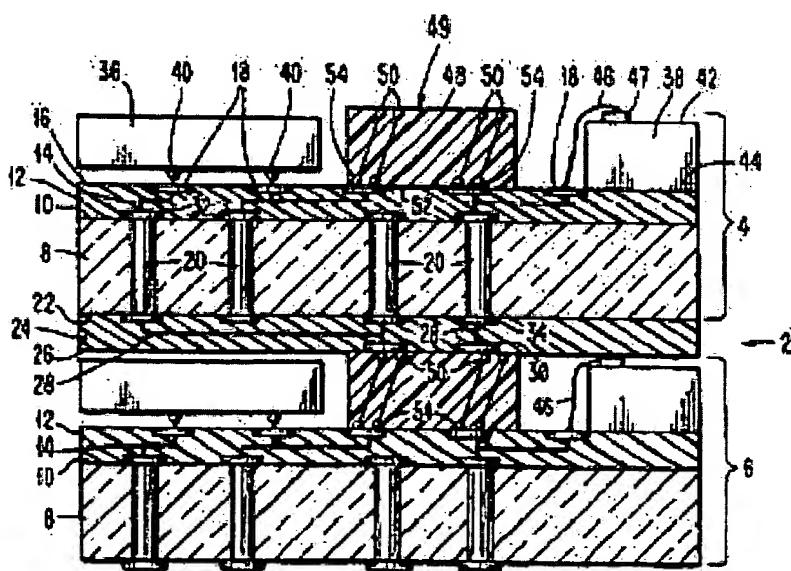
electrical interconnection there between as described herein below. Heat dissipation means 51 and 53 are held in a support frame (not shown).

Claim 3 of US '935 in addition recites "providing an interconnection substrate with a terminal which is a plated through hole." This additional recitation in claims 3 is obvious in view of the count since it is well known in the art.

At page 9 US App 07/963,346 filed 10/19.1992 US patent 5,371654 issued 12/6/1994 is incorporated by reference and applicants claim priority thereto. US 5, 371, 654 teaches at Col. 3, line 42-52, referring to Fig. 1 thereof:

Substrate 8 can be any commonly used multilayered packaging substrate containing a plurality of electrical conductors or glass ceramic and is preferably a highly thermally conductive material such as synthetic diamond, aluminum nitride ceramic, silicon, a metal (such as copper) with an electrically insulating coating. **Substrate 8 preferably has electrically conductive studs or vias 20 or through holes with a sidewall plated with an electrical conductor, such as copper, palladium, platinum and gold, as is commonly known in the art.**

**FIG. 1**



**37 CFR § 41.202 (a)(3)**

An interference in fact within the meaning of 37 CFR § 41.203 (a) exists between claim 58 of the present application and claim 2 of US' 935. The following Table 1 compares claim 58 of the present application with claim 2 of US'935 Table 2 clearly showing that there is an interference in fact.

**TABLE 2**

Claim 41 & 58 of the present application.	Claim 2 of US '935
¶ A of present application} [1] A method comprising: [2] a providing substrate having a surface; [3] forming a plurality of elongated electrical conductors extending away from said surface; [4] there being a plurality of said second ends;	¶ A of US'935} 2. [1] A method of effecting temporary connections to free ends of at least a portion of a plurality of elongate spring contact elements mounted to and extending from an electronic component such as a semiconductor device, the method comprising:
¶ B of present application} <i>It is an inherent feature of the method of this claim to urge a first substrate with the plurality of elongated electrical conductors towards a second substrate so that the second ends of the elongated electrical conductors vertically contact terminals on the second substrate as shown in applicant's figures, in particular Figs. 1, 2, 3 and 18.</i>	¶ B of US '935} [2] urging the electronic component against an interconnection substrate so that the free ends of at least a portion of the spring contact elements vertically contact selected ones of a corresponding plurality of terminals on the interconnection substrate;
¶ C of present application} [5] providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.	¶ C of US '935} [3] providing a rigid planar member between the electronic component and the interconnection substrate;
¶ D of present application} 58. [6] A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said second ends project.	¶ D of US '935} [4] providing a plurality of guide holes in the rigid planar member; and [5] inserting the free ends of at least a portion of the spring contact elements extending through selected ones of the guide holes.

37 CFR 41.203 provides that "An interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa." Applying this test to Table 2 above.

1. ¶A of the present application anticipates ¶A of US'935 and ¶A of US'935 anticipates ¶A of the present application.
2. ¶B of the present application anticipates ¶B of US'935 and ¶B of US'935 anticipates ¶B of the present application. ¶B of the present application is an inherent feature of the rest of applicants claims 41 + 58, thus ¶B of US'935 is anticipated.
3. ¶C of the present application anticipates ¶C of US'935 and ¶C of US'935 anticipates ¶C of the present application.
4. ¶D of the present application anticipates ¶D of US'935 and ¶D of US'935 anticipates ¶D of the present application.

**37 CFR § 41.202 (a)(4)**

Applicant will prevail on priority since applicants claim priority to:

co-pending US Application Serial No. 09/254,769 filed on March 11, 1999, which is the US National Phase of International Application Serial No. PCT/US97/16264 (PCT WO 98/11449) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,088 filed on September 13, 1996; co-pending US Application Serial No. 09/254,768 filed on March 11, 1999, which is US National Phase of International Application Serial No. PCT/US97/16265 (PCT WO 98/11446) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,112 filed on September 13, 1996;

co-pending US Application Serial No. 09/254,798 filed on March 11, 1999, which is the US National Phase of International Application Serial No. PCT/US97/13698 (PCT WO 98/11445) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,050 filed on September 13, 1996.

Each of applicants' PCT applications designate the US and have earlier filing dates than US'935. Each of applicants provisional applications to which the PCT applications claim priority have a filing date earlier than the provisional application to which US'935 claims priority.

**37 CFR § 41.202 (a)(5)**

All of applicants claims have written description support in the original claims. Claim 41 is an original claim and claim 58 is supported by Figs. 28 to 31. Applicants are not designating claims 7,10, 42-43, 49-51 and 59-60 to correspond to the count. Claims 7, 10 ,42 and 43 have written description support in original claims 7, 10, 42 and 43. Claim 49 has written description support in specification page 19, lines 3-5 from the bottom, specification page 20, lines 2, original claims 20 and 17 and in Fig. 29 elements 207 and 196. Claim 51 has written description support in specification at page 20, lines 1-3 and in specification page 19, lines 2-5 from the bottom. Claim 58 and 59 have written description support in Figs. 28 to 31. Claim 60 has written description support in original claims 13 and 25.

Current Claim 7	Original Claim 7
CLAIM 7 A method according to claim 49 wherein said sheet is spaced apart from said surface by a flexible support.	CLAIM 7 A structure according to claim 3 wherein said sheet is spaced apart from said surface by a flexible support.

Current Claim 10	Original Claim 10
CLAIM 10 A method according to claim 7 wherein said sheet and said flexible support forms a space containing said plurality of elongated electrical conductors.	CLAIM 10 A structure according to claim 7 wherein said sheet and said flexible support forms a space containing said plurality of elongated electrical conductors.

Current Claim 41	Original Claim 41
CLAIM 41 A method comprising:  providing a substrate having a surface;  forming a plurality of elongated electrical conductors extending away from said surface;  each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface;  there being a plurality of said second ends;	CLAIM 41 A method comprising:  providing a substrate having a surface;  forming a plurality of elongated electrical conductors extending away from said surface;  each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface  there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.	providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.
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Current Claim 42	Original Claim 42
CLAIM 42 A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum and polyimides.	A structure according to claim 3 wherein said sheet is formed and material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum, polyimides.

Current Claim 43	Original Claim 43
CLAIM 43 A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.	A structure according to claim 3 wherein said sheet is formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.

Current Claim 49	Support
CLAIM 49 A method according to claim 41 wherein said means for maintaining comprises a sheet of material comprising openings comprising a large region and a small region.	Specification page 19, lines 3-5 from the bottom states: "The holes on the top polymer layer 194 has the shape of an oval shape 196." Specification page 20, lines 1-3 states "the large portion of the oval hole 207 then shifted into the small holes" Fig. 28, 29 elements 207 and 196

Current Claim 49	Support
CLAIM 51 (Previously Presented) A method according to claim 41 wherein said means for maintaining comprises openings comprising a large region and a small region, said compliant elongated electrical conductors are first inserted through said large region and then moved to said small region.	Specification page 19, lines 2-5 from the bottom states: "The holes on the top polymer layer 194 has the shape of an oval shape 196. During the alignment and placement process the wire array is first entering into the large portion of the oval shaped hole, then shifted into the small hole and pressed against the wall." Specification page 20, lines 1-3 states ". The wire array 198 first enters into the large portion of the oval hole 207 then shifted into the small holes and presses against the polymer wall." Fig. 28, 29 elements 207 and 196

Current Claim 58	Support
CLAIM 58 A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said seconds ends project.	Original Claim 41 shown above and Figs. 28 to 31.

Current Claim 59	Support
CLAIM 59 A method according to claim 41 wherein said means for maintaining comprises at least one sheet of material comprising a plurality of openings through which said second ends project.	Original Claim 41 shown above and Figs. 28 to 31.

Current Claim 60	Support
CLAIM 60 A method according to claim 59 wherein of said at least one sheet is a sheet of electrically conductive material which has a top surface and a bottom surface and said openings have a side wall, a dielectric material coats said top surface and said bottom surface and said side wall.	Original Claim 41 shown above and Figs. 28 to 31.

**37 CFR § 41.202 (a)(6)**

Applicant will prevail on priority since applicants claim priority to each US regular application, PCT application designating the US and each of the provisional applications listed below and wish to be accorded benefit of each of the same:

co-pending US Application Serial No. 09/254,769 filed on March 11, 1999, which is the US National Phase of International Application Serial No. PCT/US97/16264 (PCT WO 98/11449) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,088 filed on September 13, 1996; co-pending US Application Serial No. 09/254,768 filed on March 11, 1999, which is US National Phase of International Application Serial No. PCT/US97/16265 (PCT WO 98/11446) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,112 filed on September 13, 1996; co-pending US Application Serial No. 09/254,798 filed on March 11, 1999, which is the US National Phase of International Application Serial No. PCT/US97/13698 (PCT WO 98/11445) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,050 filed on September 13, 1996.

Each of the identified applications is a constructive reduction to practice of the proposed count.

PCT/US 97/16264 (WO 98/11449) which claims priority to US Application 60/026,088 shows a constructive reduction to practice in Figs. 1-19 the text corresponding thereto and in the claims, for example.

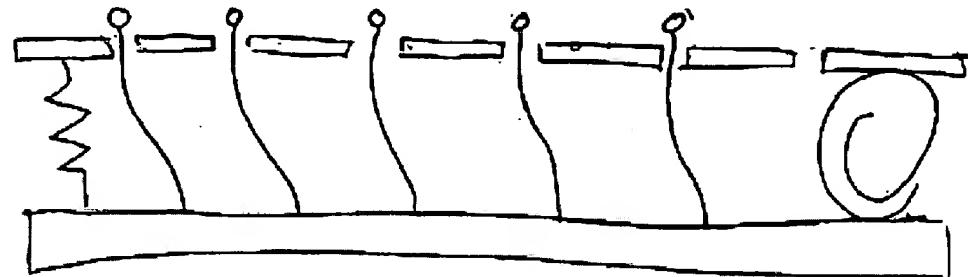
46. A method comprising: providing a substrate having a surface; forming a plurality of elongated electrical conductors extending away from said surface; each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface; there being a plurality of said second ends; providing a means for permitting each of said plurality of said second ends to move about reference positions.

60. A method according to claim 46 further including moving said second ends into contact with a work piece, said second ends moving about said reference positions.

PCT/US 97/16264 (WO 98/11449) teaches at page 15:

"FIGURE 18 schematically shows alternative embodiments of compliant frame structures (17) to support probe tip positioning structure (20) to be maintaining in

position and to move as the probe tip ends (16) move when they are moved into engagement with electronic device pads (31)."



PCT/US 97/13698 (WO 98/11445) which claims priority to US Application 60/026,088 shows a constructive reduction to practice in Figs. 1 -20 (Fig. 8 is below) the text corresponding thereto and in the claims, for example:

- I. A structure comprising: a substrate having a surface; a plurality of elongated electrical conductors extending away from said surface; said elongated electrical conductors having a dielectric coating; and each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface.
9. A structure according to claim 1 further including a means for maintaining said plurality of said second ends in substantially fixed positions with respect to a reference position.
11. A structure according to claim 9 wherein said means for maintaining is a sheet or material having a plurality of openings therein through which said second ends project.
16. A structure according to claim 11 wherein said sheet is spaced apart from said surface by a flexible support.
19. A structure according to claim 16 wherein said sheet and said flexible support form a space containing said plurality of elongated electrical conductors.
20. A structure according to claim 19 wherein said space is filled with a flexible material.
27. A structure according to claim 1 wherein said structure is a probe for an electronic device.

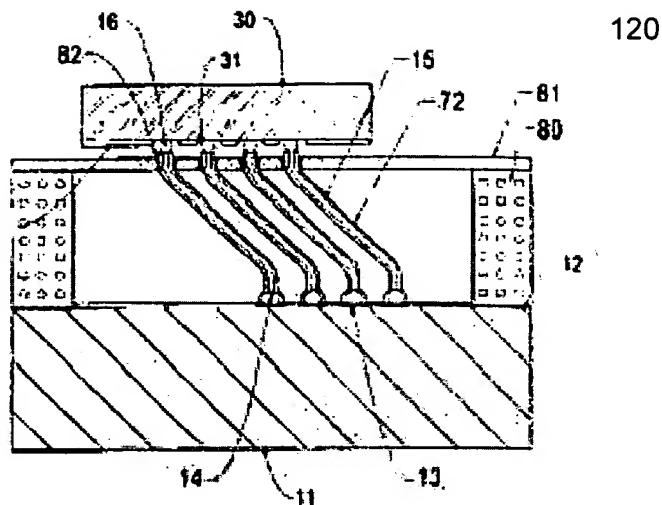


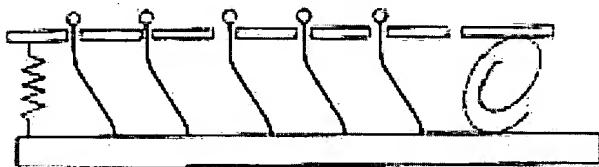
Fig. 8

PCT/US97/16265 (PCT WO 98/11446) filed on September 12, 1997, which claims priority from US Provisional Application Serial No. 60/026,112 filed on September 13, 1996 in Figs. 1-18, (Fig. 8 is below) the text corresponding thereto and in the claims, for example:

1. A structure comprising: a substrate having a surface; a plurality of elongated electrical conductors extending away from said surface; each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface; there being a plurality of said second ends; a means for maintaining said plurality of said second ends in substantially fixed positions.
2. A structure according to claim 1 wherein said first end is affixed to said surface at an electrical contact location.
3. A structure according to claim 1 wherein said means for maintaining is a sheet of material having a plurality of opening therein through which said second ends project.

PCT/US97/16265 at page 10 teaches:

FIGURE 16 schematically shows alternative embodiments of compliant frame structures (17) to support probe tip positioning structure (20) to be maintaining in position and to move as the probe tip ends (16) move when they are moved into engagement with electronic device pads (31).



## **CONCLUSION**

Applicant request the Board to reverse the Examiner's denial that there is an interference in fact between claims of the present application under appeal and the claims of US patent 6,033,935.

## **Part VIII**

### **APPENDIX CLAIMS**

**CLAIMS 1 – 6 (Canceled)**

**CLAIM 7 (Rejected)** A method according to claim 49 wherein said sheet is spaced apart from said surface by a flexible support.

**CLAIMS 8 – 9 (Canceled)**

**CLAIM 10 (Rejected)** A method according to claim 7 wherein said sheet and

said flexible support forms a space containing said plurality of elongated electrical conductors.

**CLAIMS 11 – 40 (Canceled)**

**CLAIM 41 (Rejected)** A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and

a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other.

CLAIM 42 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum and polyimides.

CLAIM 43 (Rejected) A method according to claim 41 wherein said means for maintaining is a sheet formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.

#### CLAIMS 44 – 48 (Canceled)

CLAIM 49 (Rejected) A method according to claim 41 wherein said means for maintaining comprises a sheet of material comprising openings comprising a large region and a small region.

#### CLAIM 50 (Canceled)

CLAIM 51 (Rejected) A method according to claim 41 wherein said means for maintaining comprises openings comprising a large region and a small region, said compliant elongated electrical conductors are first inserted through said large region and then moved to said small region.

#### CLAIMS 52 – 57 (Canceled)

**CLAIM 58 (Rejected)** A method according to claim 41 wherein said means for maintaining is a sheet of material comprising a plurality of openings through which said seconds ends project.

**CLAIM 59 (Rejected)** A method according to claim 41 wherein said means for maintaining comprises at least one sheet of material comprising a plurality of openings through which said second ends project.

**CLAIM 60 (Rejected)** A structure according to claim 59 wherein of said at least one sheet is a sheet of electrically conductive material which has a top surface and a bottom surface and said openings have a sidewall, a dielectric material coats said top surface and said bottom surface and said sidewall.

**CLAIM 61 – 63 (Canceled)**

**CLAIM 64 (Rejected)** The structure according to claim 51 wherein each of said elongated electrical conductors projects through one of said openings in said sheet of material.

**CLAIM 65 (Rejected)** The structure according to claim 58 wherein each of said elongated electrical conductors projects through one of said plurality of openings in said sheet of material.

**CLAIM 66 (Rejected)** The structure according to claim 59 wherein each of said elongated electrical conductors projects through one of said plurality of openings in said sheet of material.

**CLAIM 67 (Rejected)** The structure according to claim 41 wherein said means for maintaining comprises openings which are larger in size than said elongated electrical conductor and wherein each of said elongated electrical conductors projects through one of said openings in said sheet of material.

**CLAIM 68 (Rejected) The structure according to claim 58 wherein each of said plurality of openings is larger in size than said elongated electrical conductor.**

**PART IX**  
**CFR 37 § 41.37(c) (1) (ix)**

**Evidence Appendix**

There is no evidence relied on

**Part X**  
**Related Proceeding Appendix**

There is a pending appeal in U.S. Appl. Ser. No. 10/145661 filed on 14-May-2002 which is a continuation in part of the present application on appeal.

**PART IX**  
**CFR 37 § 41.37 (c) (1) (ix)**

**Evidence Appendix**

There is no evidence relied on

**PART X**  
**Related Proceeding Appendix**

There is a pending appeal in U.S. Appln. Ser. No.: 10/145661, filed on 14-May-2002 which is a continuation-in-part of the present application on appeal.

Please charge any fee necessary to enter this paper and any previous paper to deposit account 09-0468.

Respectfully submitted,

By: /Daniel P. Morris/  
Dr. Daniel P. Morris, Esq.  
Reg. No. 32,053  
Phone No. (914) 945-3217

IBM Corporation  
Intellectual Property Law Dept.  
P. O. Box 218  
Yorktown Heights, New York 10598